

WHAT IS CLAIMED IS:

1. In a network including a switching node having a plurality of ports, a method for dynamically associating one of the ports to a virtual local area network (VLAN) based on a VLAN membership of a device connected to the port, the method comprising:

receiving a command associating the device to the VLAN;  
transmitting to the plurality of ports in response to the command, a first message configured to generate a response by the device;

receiving at a particular port, a second message from the device responsive to the first message;

identifying the port receiving the second message; and  
associating the identified port to the VLAN associated with the device.

2. The method of claim 1, wherein the device is a silent device that responds to traffic transmitted by another device but does not initiate traffic to other devices.

3. The method of claim 2, wherein the device is a printer.

4. The method of claim 1 further comprising storing a list of addresses learned on the identified port.

5. The method of claim 4, wherein the second message includes an address associated with the device, the method

further comprising including the address in the list of addresses learned on the identified port.

6. The method of claim 5, further comprising:  
detecting a triggering event removing the address associated with the device from the list of addresses learned on the identified port;

determining whether the device associated with the address is a silent device configured to respond to traffic transmitted by another device but not configured to initiate traffic to other devices;

transmitting to the plurality of ports based on the determination, a third message configured generate a response by the device;

receiving at a second port, a fourth message from the device responsive to the third message;

identifying the second port receiving the fourth message;  
and

associating the second port to the VLAN associated with the device.

7. The method of claim 6, wherein the triggering event is a port down event.

8. The method of claim 7, wherein the port down event is generated in response to the device being decoupled from the identified port.

9. The method of claim 6, wherein the triggering event is fulfillment of an ageing time for removing the address.

10. A switching node comprising:  
a port coupled to a device associated with a virtual local area network (VLAN);

means for receiving a command associating the device to the VLAN;

means for transmitting to the port in response to the command, a first message configured to generate a response by the device;

means for receiving at the port, a second message from the device responsive to the first message;

means for identifying the port receiving the second message; and

means for associating the identified port to the VLAN associated with the device.

11. The switching node of claim 10, wherein the device is a silent device that responds to traffic transmitted by another device but does not initiate traffic to other devices.

12. The switching node of claim 11, wherein the device is a printer.

13. The switching node of claim 10 further comprising means for storing a list of addresses learned on the identified port.

14. The switching node of claim 13, wherein the second message includes an address associated with the device, the switching node further comprising means for including the address in the list of addresses learned on the identified port.

15. The switching node of claim 14, further comprising:  
means for detecting a triggering event removing the address associated with the device from the list of addresses learned on the identified port;

means for determining whether the device associated with the address is a silent device configured to respond to traffic transmitted by another device but not configured to initiate traffic to other devices;

means for transmitting to the plurality of ports based on the determination, a third message configured generate a response by the device;

means for receiving at a second port, a fourth message from the device responsive to the third message;

means for identifying the second port receiving the fourth message; and

means for associating the second port to the VLAN associated with the device.

16. The switching node of claim 15, wherein the triggering event is a port down event.

17. The switching node of claim 16, wherein the port  
down event is generated in response to the device being  
5 decoupled from the identified port.

18. The switching node of claim 15, wherein the  
triggering event is fulfillment of an ageing time for removing  
the address.  
10

19. A switching node comprising:  
one or more ports receiving and transmitting data units;  
a first table storing a list of addresses learned on the  
15 one or more ports;  
a first module coupled to the first table; and  
a second module coupled to the first module,  
characterized in that the first module detects a triggering  
event, removes an address from the list of addresses stored in  
20 the first table based on the triggering event, determines  
whether the address is associated with a silent device  
configured to respond to traffic transmitted by another device  
but not configured to initiate traffic to other devices, and  
25 forwards the address to the second module based on the  
determination, further characterized in that the second module  
transmits to the one or more ports a first message configured  
to generate a response by the silent device associated with  
the forwarded address, also characterized in that the first  
30 module receives at a particular port, a second message from  
the silent device responsive to the first message, identifies  
the particular port receiving the second message, and

associates the identified port to a VLAN associated with the silent device.

20. The switching node of claim 19, wherein the triggering event is a port down event.

21. The switching node of claim 19, wherein the triggering event is fulfillment of an ageing time for removing the address.